


PRESERVING EARLY CHILDHOOD CONFERENCE

# **THE SCIENCE OF CHILDHOOD: WHY PLAYFUL LEARNING IS SUCCESSFUL LEARNING**

**Dr. Rachel White, Ph.D.**

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Teachers should provide  
"experiences, materials,  
and interactions to enable  
children to **engage in play**  
that allows them to  
stretch their boundaries  
to the fullest in their  
imagination, language,  
interaction, and self-  
regulation."

NAEYC Guidelines, 2009, p. 18



## Play is under siege.

■ Ziegler, 2004

### TIME FOR PLAY IS DWINDLING.

In the last 20 years, play is down 8 hours per week. Under pressure from rising academic standards, play is being replaced by test prep.

Elkind, 2008

# What principals are saying about play...

## Some understand the value of play...

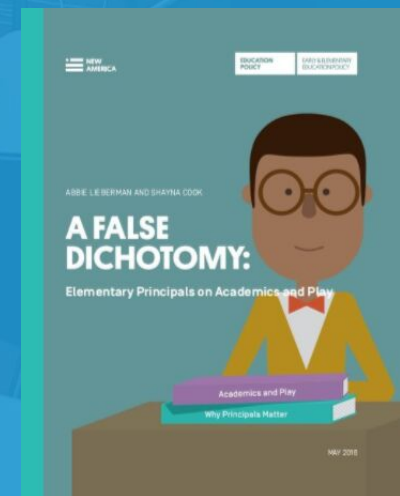
Play is so developmentally important... I push for play because [kindergarten] has become so academic.

## Some don't...

I have to be honest. We don't have kitchens or the house anymore in kindergarten because there was no time for that.

## Many feel under pressure...

Now they've got to be at a certain level to be at the college-ready standard, to be ready for first grade. ... Much more of a focus on academic strengths and foundations for math.



Lieberman & Cook  
for New America, 2016







## Outline

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What is playful learning?

How play supports STEM, literacy, self-control, and curiosity for all kids

Harnessing the power of guided play

Making playful learning visible

# What is playful learning?

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Active

Engaged

Meaningful

Involves free play, guided play,  
and games

# What is guided play?

## Free Play

Child-Directed  
Child-Initiated

## Guided Play

Child-Directed  
Adult-Initiated

## Co-Opted Play

Child-initiated  
Adult-Directed

## Direct Instruction

Adult-Initiated  
Adult-Directed



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**Can we really meet standards through play?**

**YES!!!**





## Building STEM skills

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Children lay foundations for complex scientific thinking through experimentation, observation, and comparison.



## MATH

During play, children explore shapes and patterns, compare magnitude, count, transform, and categorize.



## EXPERIMENTATION

Play helps children learn to hypothesize, problem solve, and persevere through difficulty.

# Language & Literacy

Play predicts reading comprehension as well as written and oral communication

## Symbolic thought

Letters and words represent concepts, objects, events

## Social interactions

Social play encourages greater and more complex language use

## Individual relevance

Allows for cultural and personal connection



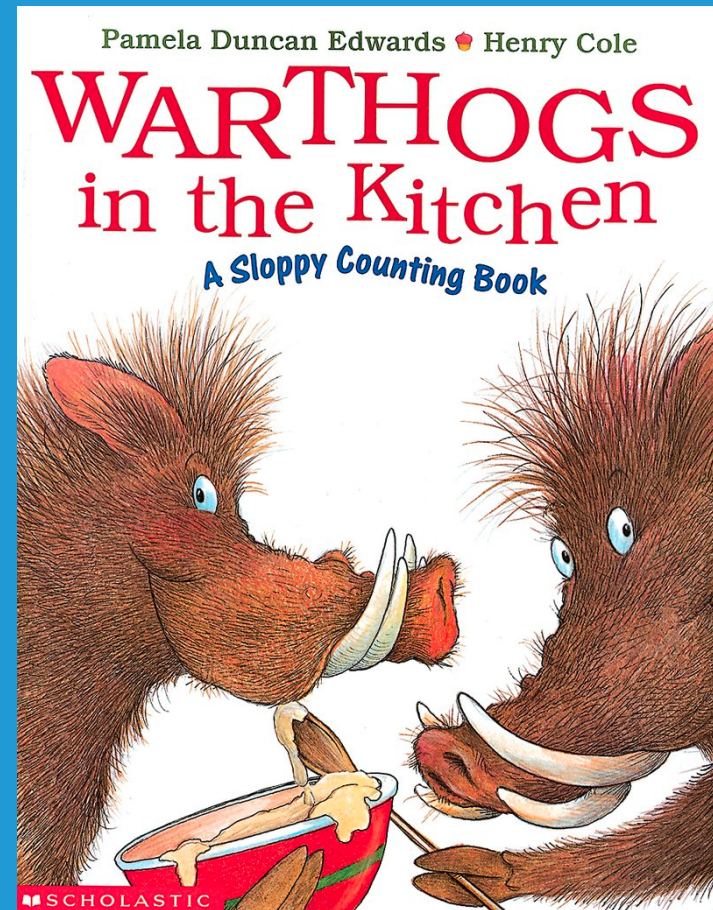
Nicolopoulou, 2006; Weisberg et al., 2013



# Vocab Learning

## An intervention for at-risk preschoolers

Compared to explicit vocabulary instruction, children who received shortened instruction + play time made larger gains on both receptive and expressive vocabulary





# Learning to Regulate

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## Thinking flexibly

Children learn to think about alternatives

## Working with others

Play with peers requires inhibiting your desires for the greater good, cooperating, and negotiating

## Dealing with emotions

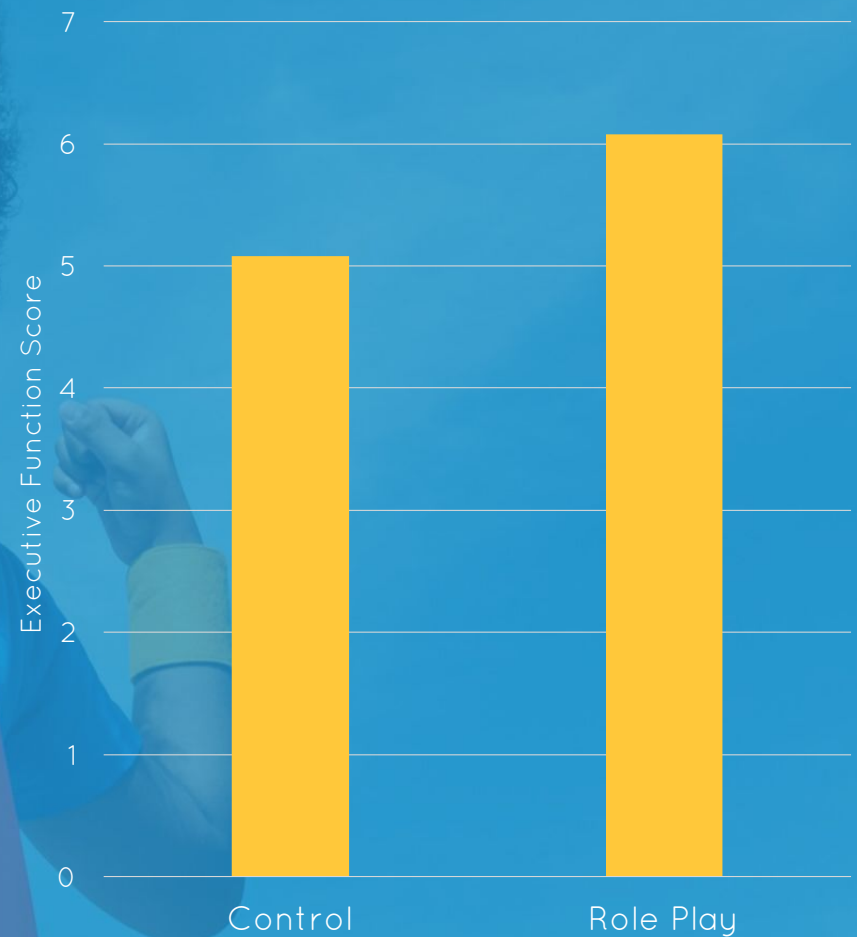
Play helps kids cope with their feelings in a safe space



# Role Play

## "THE BATMAN EFFECT"

Pretending to be a competent character, like Batman, helps children to think flexibly, work harder, pay attention, and regulate their emotions.



White & Carlson, 2015 (figure); White et al., 2018; Grenell et al., 2018; White & Yirigian, unpublished data

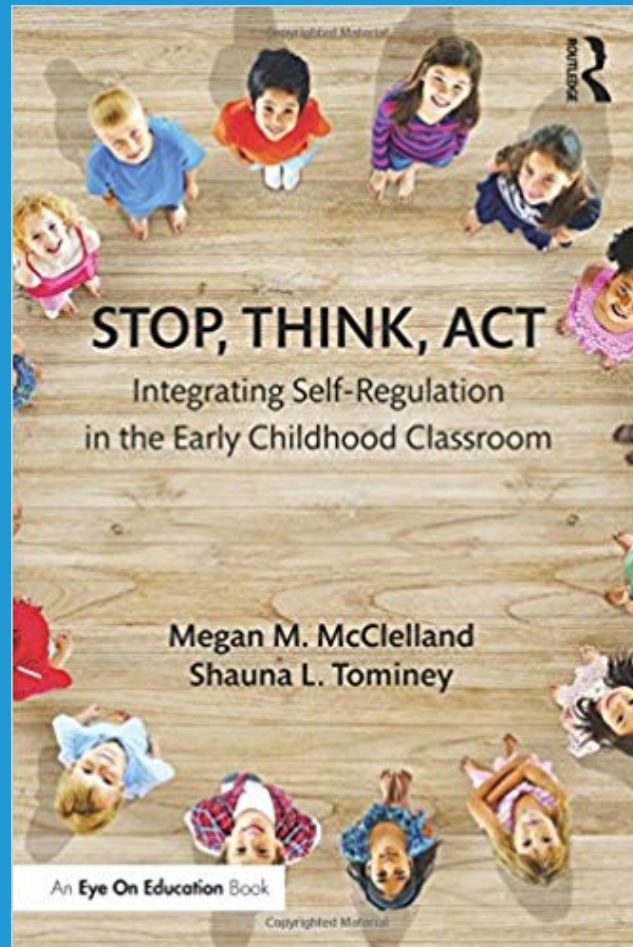
# Sociodramatic Play

## PREDICTS GROWTH IN EF SKILLS

The more children engaged in dramatic free play with their peers across the school year, the more they improved on measures of impulsivity



Thibodeau, White, Palermo, & Mikulski, 2019; Photo Credit: Claudia Sosa-Valderrama



## Long-term impacts

Better regulation in pre-K  
leads to better K reading and  
math outcomes

Blair & Razza, 2007; Shoda et al., 1983



# Fostering curiosity

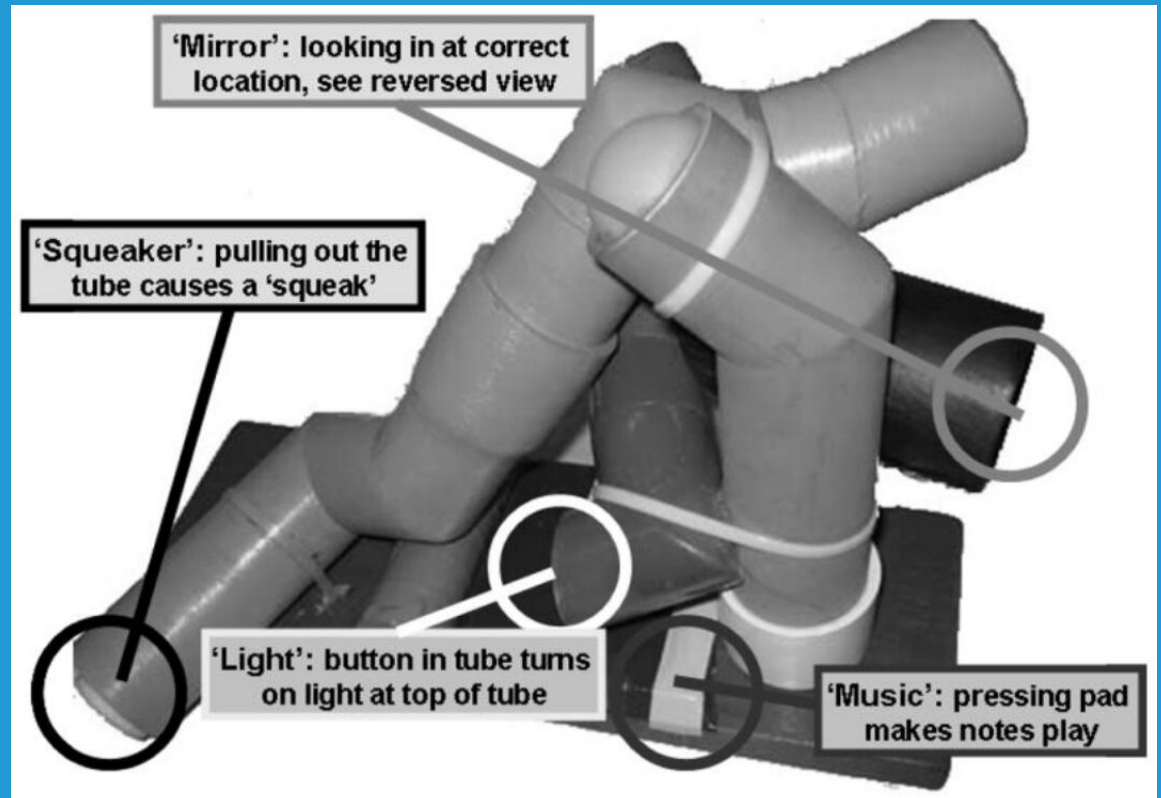


## PLAY IS FUN!

Children are intrinsically motivated to learn

# Exploration

Play encourages experimentation and discovery.





Instead of focusing solely  
on academic skills...  
cultivating the **joy of  
learning** through play is  
likely to better  
encourage long-term  
academic success.

Yogman et al., 2018

# **Content + 21st century skills**

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Creativity



Critical Thinking



Communication



Collaboration



## Play serves all children

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### **BUT, WHO GETS TO PLAY?**

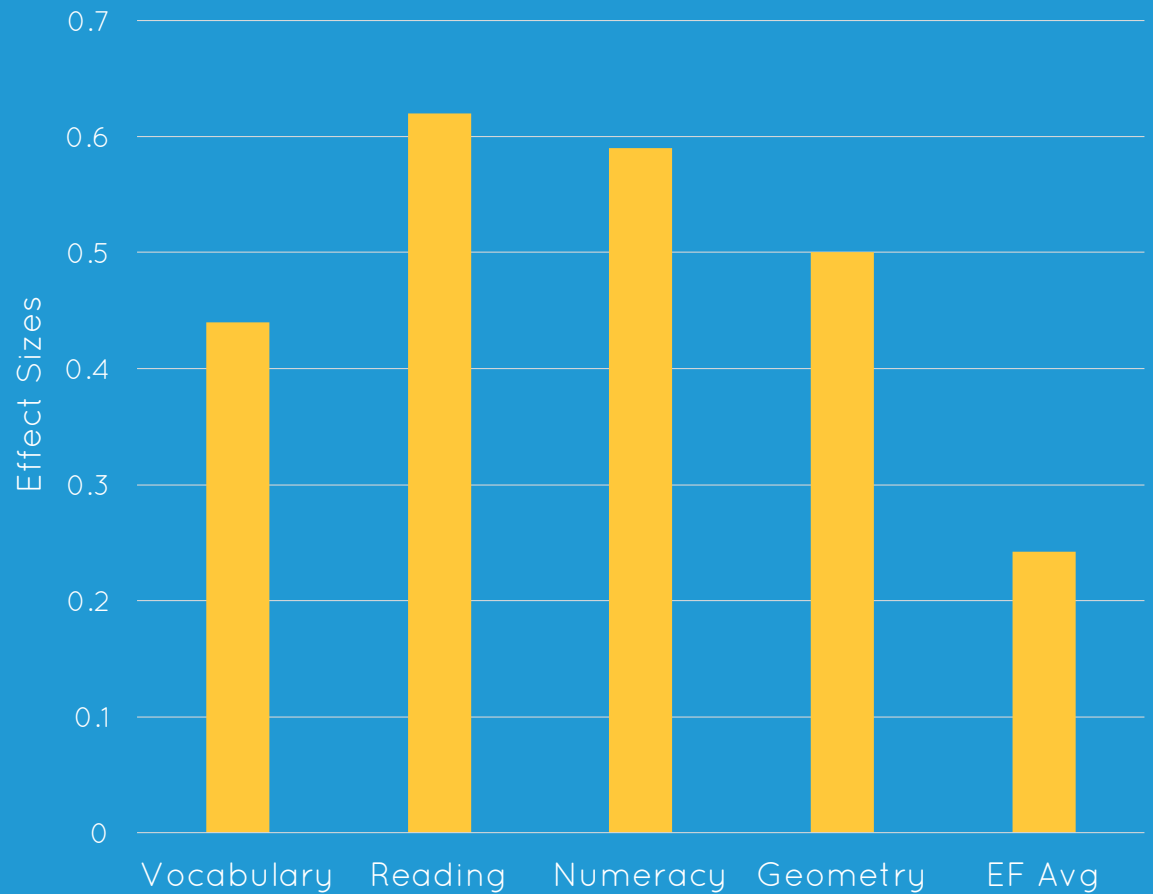
Sadly, despite the fact that everyone can benefit from play, low income and ethnic minority children get less play time in school

# Boston

## A CASE STUDY

Implementing a high-quality, play-based curriculum produced largest math and literacy gains of any large pre-K program.

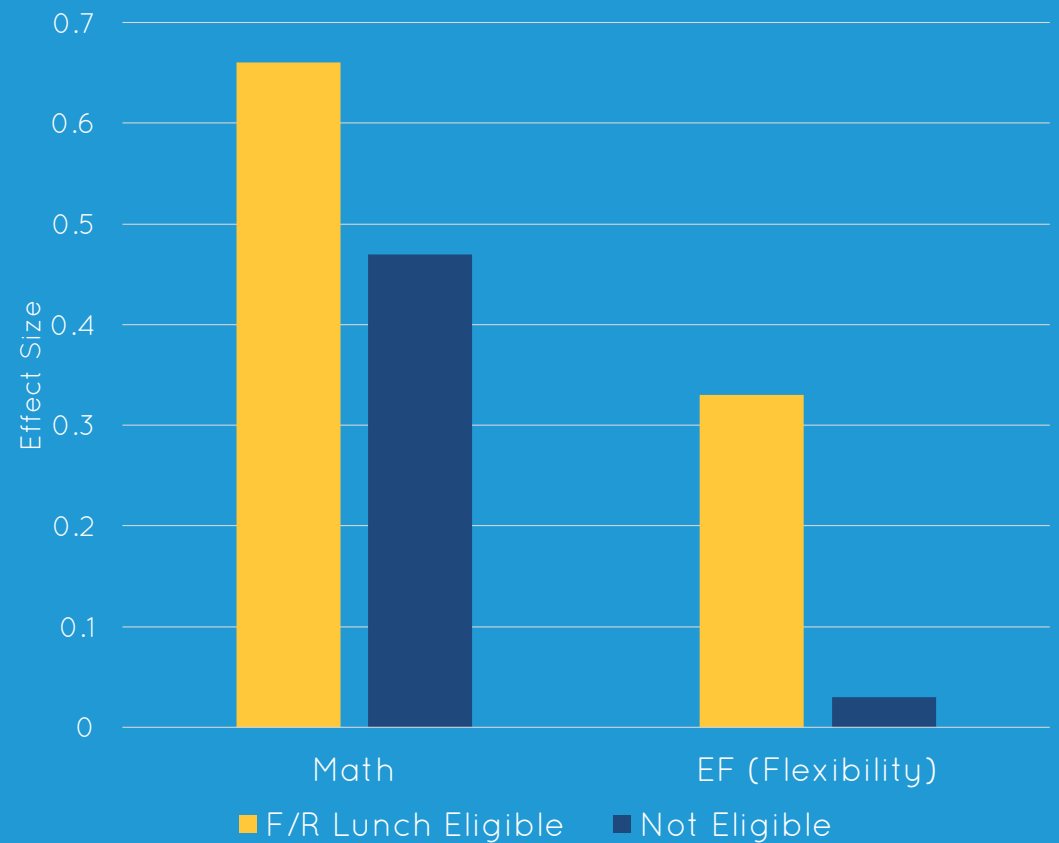
Also improved EF.



# Boston

## A CASE STUDY

Particularly large gains for children from low-income and ethnic minority households, children with special needs, children with delayed language abilities, and dual-language learners







## **GUIDED PLAY**

Adults need to be sensitive to the child's needs in the moment, flexible in how they intervene, & willing to follow the child's lead.

White, 2011


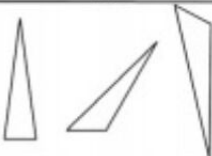

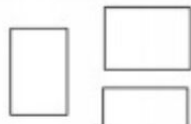

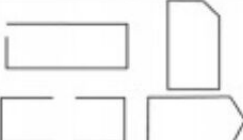






Typical	Atypical	Non-valid
		
		
		
		

Figure 1. Stimuli for the shape-sorting task.

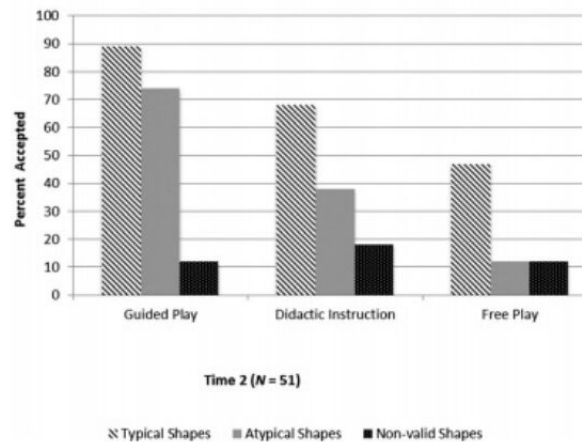
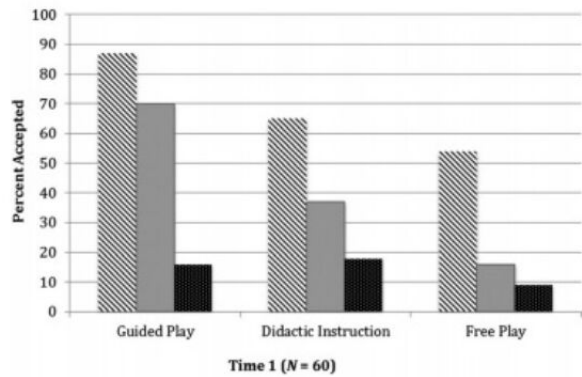
## THE POWER OF GUIDED PLAY

### Example: Shape learning

3 conditions:

1. Guided play: discovered properties of shapes together as shape detectives
2. Direct instruction: teacher discovered shapes, child passive
3. Free play: played with shapes

How well did children learn shapes?



## THE POWER OF GUIDED PLAY

### Example: Shape learning

Gentle guidance during play with shapes leads to *better* learning than direct instruction



## Implementing playful learning



Observe



Provide materials  
and scaffold use



Get involved



# Fight for children's right to play!

## Gather Support

- Mentors
- Colleagues
- Administration
- Parents
- Community
- Policy makers

## Keep Learning

- Stay up to date on developmentally appropriate practice
- Encourage others to do the same

## Make Playful Learning Visible

- Document play
- Create exhibits of children's work and draw connections
- Share widely



Play is often talked about as if it were a relief from serious learning. But for children,  
**play is serious learning.**  
Play is really the work of childhood.

- Fred Rogers



# Thank you!

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## CONTACT ME AT:



Hamilton College  
198 College Hill Road  
Clinton, NY 13323



E-mail Address:  
[rewhite@hamilton.edu](mailto:rewhite@hamilton.edu)